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3
ANNUAL REPORT
of
COOPERATIVE STATE-FEDERAL
PSOROPTIC SHEEP AND CATTLE SCABIES
ERADICATION ACTIVITIES
Fiscal Year 1965

November 1, 1965

PSOROPTIC SHEEP SCABIES

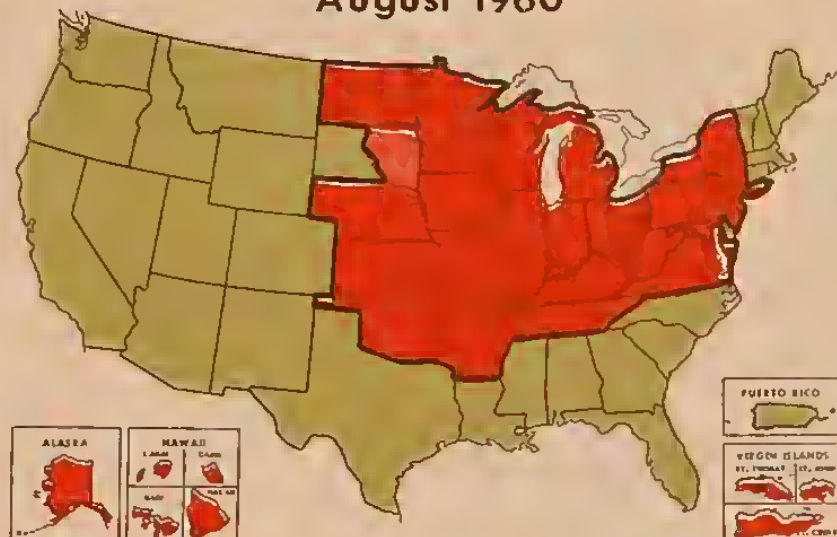
PROGRAM ACTIVITIES FISCAL YEARS 1954 THROUGH 1965

Fiscal Year	Number of Infected States	Number of Infected Counties	Number of Infected Flocks	Total Inspections	Total Dippings	Public Stockyards		
						Infected Lots	Sheep Inspected	Sheep Dipped
1954	21	183	391	5,477,334	390,530	68	13,179,281	241,689
1955	24	219	442	5,587,267	391,952	72	13,447,297	242,627
1956	25	267	607	8,730,299	441,713	110	12,835,044	235,488
1957	24	289	682	11,994,987	573,810	150	12,791,764	299,474
1958	24	300	726	9,500,782	356,854	206	11,626,207	341,924
1959	24	276	736	10,848,946	309,609	209	11,908,863	388,450
1960	25	280	886	10,836,576	390,958	214	12,351,029	374,834
1961	24	296	872	12,031,249	506,745	187	12,304,306	350,339
1962	24	316	767	12,771,677	591,231	121	11,722,578	303,196
1963	21	180	268	15,530,561	843,447	51	9,769,549	299,291
1964	15	88	126	15,528,685	343,145	10	8,509,121	155,126
1965	18	91	168	21,085,187	367,231	6	7,123,955	156,762

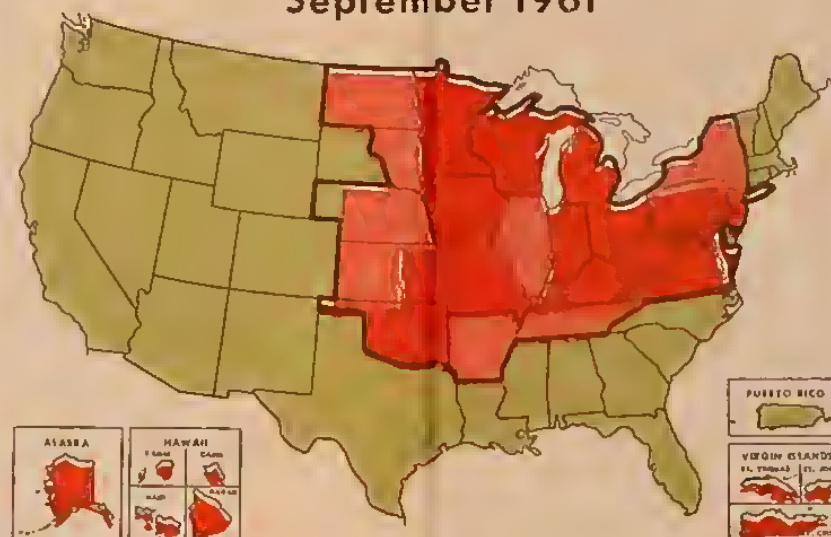
Psoroptic sheep scabies was reported in 168 flocks of 20,067 sheep in 91 counties in 18 States compared to 126 flocks in 88 counties in 15 States in 1964. 6 infected lots were found at public stockyards during fiscal year 1965 and 10 during the previous year. 21,085,187 sheep were inspected on farms during 1965 and 367,231 dipped--compared to 1964 when 15,528,685 were inspected on farms and 343,145 dipped.

S H E E P S C A B I E S E R A D I C A T I O N

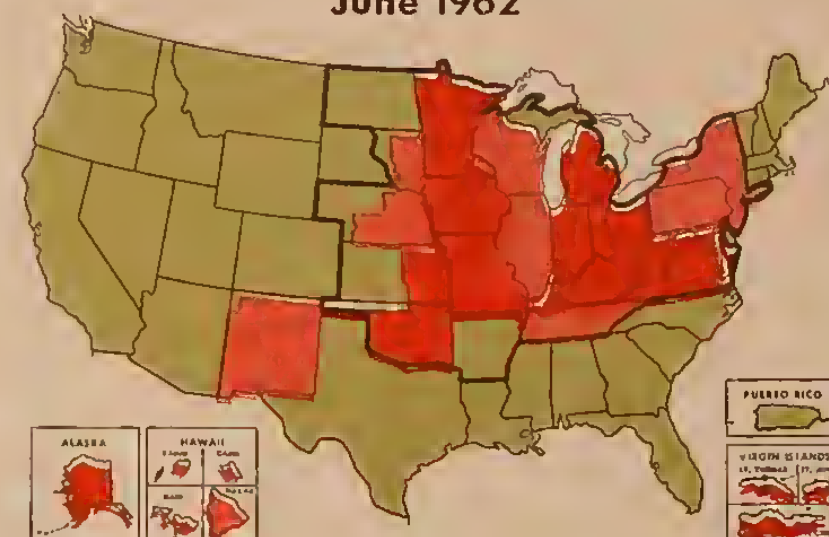
August 1960



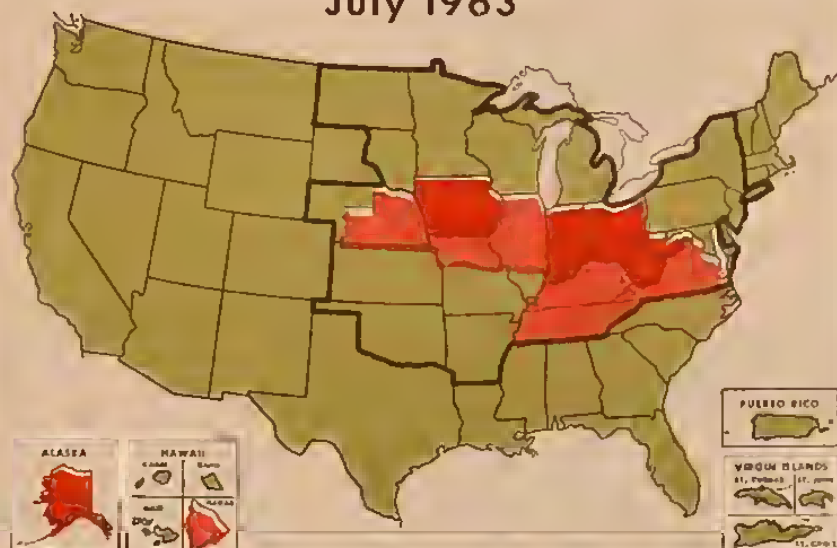
September 1961



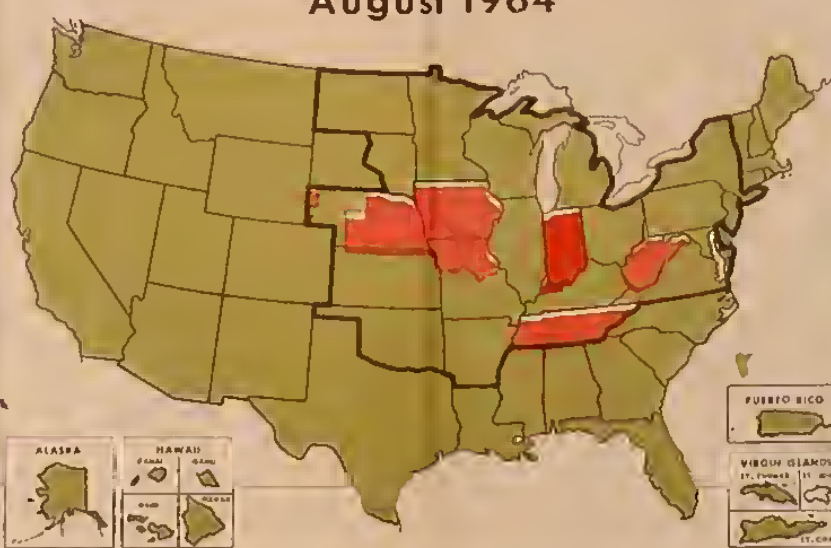
June 1962



July 1963



August 1964



July 1965



— Infected area at beginning of accelerated eradication program, 1960

Date	Counties*			States*		
	Free	Eradication	Infected	Free	Eradication	Infected
August 1960	1,421	44	1,689	27 & P.R.	1	23 & V.I.
July 1965	3,055	99	0	49 & P.R. & V.I.	1	0

AREAS

Free

Eradication

Infected

*Figures Include Parts of States

These regulations were amended effective August 1, 1960, designating all of 27 States and Territories and the District of Columbia and part of one State as Sheep Scabies Free Areas and the remaining States and Territories and part of one State as Infected Areas. The following areas were designated as Free Areas:

Alabama, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Louisiana, Maine, Massachusetts, Mississippi, Montana, Nevada, New Mexico, New Hampshire, North Carolina, Oregon, Puerto Rico, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wyoming, and that portion of South Dakota west of the Missouri River.

The amendment also provided for dipping of sheep moving interstate from Infected into Free and Eradication Areas and from one Eradication Area to another except those destined for immediate slaughter, and designated that portion of South Dakota east of the Missouri River as the first Sheep Scabies Eradication Area.

Since August 1960, considerable progress has been made in many States and the following areas were qualified under the provisions of AIE Division Memorandum No. 505.6 dated November 21, 1960, as Sheep Scabies Eradication Areas:

NORTH

STATES OR PARTS OF STATES ADDED TO SHEEP SCABIES INFECTED AND ERADICATION AREAS

February 1961 -- State of New York
June 1961 ----- States of Arkansas, Nebraska, North Dakota, and Tennessee.
July 1961 ----- State of Illinois.
September 1961 -- 62 counties in western Kansas. This included Republic, Cloud, Ottawa, Saline, McPherson, Harvey, Sedgwick, Sumner, and all counties in the State of Kansas lying west thereof.
October 1961 --- State of Hawaii; Wisconsin.
December 1961 -- State of New Jersey.
January 1962 --- 15 Upper Peninsular counties in Michigan. These counties were Alger, Baraga, Chippewa, Delta, Dickinson, Gogebio, Houghton, Iron, Keweenaw, Lapeer, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft.
March 1962 ----- State of Pennsylvania.
July 1962 ----- State of Kentucky.
----- 19 counties in Michigan. These were Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, Montmorency, Oshtemo, Otsego, Presque Isle, Roscommon, and Wexford.
November 1962 -- State of Minnesota.
December 1962 -- 43 counties in Kansas. These included Butler, Clay, Cowley, Dickinson, Marion, Washington, and all counties in the State of Kansas lying east thereof.
January 1963 --- State of Oklahoma.
February 1963 -- State of Maryland.
----- U. S. Virgin Islands.
----- 49 counties in Michigan. These included Clare, Gladwin, Lake, Mason, Ogemaw, Oshtemo, and all counties in the State of Michigan south thereof.
----- 70 counties in Missouri south of the Missouri River. These included Cole, Cooper, Franklin, Gasconade, Jackson, Lafayette, Moniteau, Osage, Saline, St. Louis, and all counties in the State of Missouri lying south thereof.
March 1963 ----- State of Virginia.
----- 20 counties in West Virginia. These were Berkeley, Fayette, Grant, Greenbrier, Hampshire, Hardy, Jefferson, Mercer, Mineral, Monroe, Morgan, Nicholas, Pendleton, Pocahontas, Raleigh, Randolph, Summers, Tucker, Upshur, and Webster Counties.
June 1963 ----- 44 counties in Missouri north of the Missouri River.
October 1963 --- Box Butte, Dawes, and Sioux Counties, Nebraska.
January 1964 --- Cumberland County, Pennsylvania; St. Croix County, Wisconsin; Jackson County, Minnesota; Olmsted, Ellsworth, Harper, Jewell, and Sedgwick Counties, Kansas; Lincoln County, Minnesota; and Augusta County, Virginia.
February 1964 -- State of Iowa and State of Ohio; Morrill County, Nebraska; and Highland County, Virginia.
March 1964 ----- Rock County, Minnesota and West Virginia (remaining 35 counties).
April 1964 ----- Chester County, Pennsylvania and Republic County, Kansas.
May 1964 ----- Banner County, Nebraska.
October 1964 --- Barber, Harper, Kingman, and Marion Counties, Kansas.
November 1964 -- Logan County, Ohio.
December 1964 -- Entire State of Indiana (92 counties).

The effective State-Federal Cooperative Sheep Scabies Eradication Program in a number of areas resulted in eradication of the disease, and the following areas achieved Sheep Scabies Free Status:

NORTH

STATES OR PARTS OF STATES ACHIEVING SHEEP SCABIES FREE STATUS

July 1961 ----- 11 counties in western Nebraska. These included Banner, Box Butte, Cheyenne, Dawes, Deuel, Garden, Kimball, Morrill, Sheridan, Sioux, and Scotts Bluff Counties. This was the first area designated as Infected in August 1960 to be considered freed of the disease.
December 1961 -- 16 counties and parts of two counties in western North Dakota lying west of the Missouri River and State Highway No. 8.
----- 39 counties in western Kansas achieved Free Status. These included Phillips, Resno, Rush, Pawnee, Edwards, Kiowa, Comanche, and all counties in the State of Kansas lying west thereof.
January 1962 --- Arkansas became the first entire State declared an official Sheep Scabies Infected Area in August 1960 to become Free.
February 1962 -- 16 counties east of the Missouri River in South Dakota were declared Scabies Free. These were McPherson, Edwards, Faulk, Hand, Jerauld, Aurora, Douglas, and Charles Mix, and all counties in the State of South Dakota lying west thereof to the Missouri River.
April 1962 ----- An additional 23 counties in western Kansas achieved Free Status making a total of 62 western Kansas counties Scabies Free. The Free Area in Kansas thus included Republic, Cloud, Ottawa, Saline, McPherson, Harvey, Sedgwick, and Sumner, and all counties in the State of Kansas lying west thereof.
May 1962 ----- The remaining 35 counties and parts of two counties in North Dakota were declared Free making the entire State of North Dakota Scabies Free.
----- An additional 14 western Nebraska counties were added to the Free Area. Thus a total of 25 Nebraska counties were Scabies Free and includes the following: Arthur, Banner, Blaine, Box Butte, Brown, Chase, Cherry, Cheyenne, Dawes, Deuel, Dundee, Garden, Grant, Hooker, Keith, Kiowa, Kimball, Loup, Morrill, Perkins, Rees, Sheridan, Sioux, Scotts Bluff, and Thomas.
June 1962 ----- The 14 Upper Peninsular counties in Michigan were declared Free. These were Alger, Baraga, Chippewa, Delta, Dickinson, Gogebio, Houghton, Iron, Keweenaw, Lapeer, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft.
July 1962 ----- 19 counties in Michigan. These were Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, Montmorency, Oshtemo, Otsego, Presque Isle, Roscommon, and Wexford Counties.
October 1962 --- State of Wisconsin.
----- Two counties in Hawaii. These were Honolulu and Kauai.
----- Remaining 28 counties in South Dakota were declared Free, making the entire State of South Dakota Scabies Free.
April 1963 ----- St. Thomas and St. John Islands in the U. S. Virgin Islands were declared Scabies Free.
March 1963 ----- Maui County, Hawaii, declared Free, making the entire State of Hawaii Scabies Free.
----- State of New York.
May 1963 ----- State of Oklahoma and Maryland.
----- The remaining 43 counties in Kansas were declared Free, making the entire State of Kansas Scabies Free. The 43 counties included Butler, Clay, Dickinson, Marion, Washington, Cowley, and all counties in the State of Kansas lying east thereof.
----- 70 counties in Missouri. These included Cole, Cooper, Franklin, Gasconade, Jackson, Lafayette, Moniteau, Osage, Saline, St. Louis, and all counties in the State of Missouri lying south thereof.
June 1963 ----- States of Minnesota, Pennsylvania, and New Jersey.
----- The remaining 49 counties in Michigan were declared Free, making the entire State Sheep Scabies Free. These 49 counties included Clare, Gladwin, Lake, Mason, Ogemaw, Oshtemo, and all counties in the State of Michigan south thereof.
----- 30 counties in Illinois. These were Boone, Clay, Clinton, Lawrence, Madison, Marion, Richland, and all counties in the State of Illinois south thereof.
July 1963 ----- St. Croix, U. S. Virgin Islands, was declared Free, making the U. S. Virgin Islands all Scabies Free.
August 1963 --- State of Alaska and State of Virginia.
December 1963 -- Hawaii County, Hawaii.
March 1964 ----- Cumberland County, Pennsylvania; St. Croix County, Wisconsin; and Jackson County, Minnesota.
May 1964 ----- Augusta and Highland Counties, Virginia.
June 1964 ----- Rock and Lincoln Counties, Minnesota.
July 1964 ----- State of Kentucky.
August 1964 --- Chester County, Pennsylvania, was declared Free, making the entire State Free.
----- The entire State of Ohio; 72 northern counties in Illinois; and Cloud, Ellsworth, Harper, Jewell, Sedgwick, and Republic Counties in Kansas were declared Free, making these three States entirely Free.
April 1965 ----- Barber, Harper, Kingman, and Marion Counties, Kansas.
May 1965 ----- Entire States of Indiana and West Virginia; remaining 73 counties of Nebraska; and Logan County, Ohio.
June 1965 ----- Entire State of Tennessee and 44 counties in northern Missouri.

OUTBREAKS RESULTING IN AMENDMENTS TO FEDERAL REGULATIONS IN AREAS CONSIDERED SHEEP SCABIES FREE IN AUGUST 1960

SOUTH DAKOTA

In South Dakota, the appearance of sheep scabies resulted in a Federal quarantine being placed on Butte County in November 1960. It was removed the following month in December after the disease had been eradicated from the county. Fall River County, placed in the Infected and Eradication Areas in March 1961 because of scabies outbreaks, was returned to Scabies Free Status in August 1961.

NEW MEXICO

The State of New Mexico, considered Scabies Free in August 1960, was declared an Infected Area in September 1960 following scabies outbreaks. Counties were returned to the Scabies Free Area following inspections of all sheep in the county with no evidence of the disease. Thus, the following changes in status occurred:

October 1960 --- Catron, Colfax, Doña Ana, Guadalupe, Mora, Santa Fe, San Miguel, Torrance, Quay, Union, Harding, Rio Arriba, Sandoval, San Juan, Sierra, McKinley, Roosevelt, Socorro, Taos, and Valencia Counties were restored to the Free Area.
November 1960 -- Chavez, Curry, Dona Ana, Eddy, Grant, Lea, Hidalgo, Lincoln, Los Alamos, Luna, and Otero Counties were returned to the Free Area, leaving only Bernalillo County in the Infected and Eradication Areas.
December 1960 -- San Miguel County was returned to the Infected and Eradication Areas as a result of a scabies outbreak.
February 1961 -- Chavez and Eddy Counties were similarly added to the Infected and Eradication Areas.
April 1961 ----- Lea County was also returned to the Infected and Eradication Areas.
August 1961 --- Bernalillo, Chavez, Eddy, Lea, and San Miguel Counties were returned to the Free Area; and, thus, the entire State again achieved a Sheep Scabies Free Status.
December 1961 -- Scabies outbreaks resulted in the return of parts of Eddy and Chavez Counties to the Infected and Eradication Areas.
January 1962 --- Additional outbreaks caused the entire State with the exception of portions of McKinley and San Juan Counties (the Navajo Indian Reservation) to be again placed in the Infected and Eradication Areas.
August 1962 --- 13 counties were declared Free. These were Catron, Colfax, Dona Ana, Grant, Harding, Hidalgo, Los Alamos, Luna, McKinley, Mora, Rio Arriba, Sandoval, San Juan, San Miguel, Santa Fe, Sierra, Taos, and Union.
March 1963 ----- 9 additional counties were added to the Free Area. These were Bernalillo, Curry, Doña Ana, Guadalupe, Quay, Roosevelt, Socorro, Torrance, and Valencia.
April 1963 ----- The remaining five counties (Lea, Eddy, Chavez, Lincoln, and Otero) in New Mexico were declared Free, giving the entire State a Sheep Scabies Free Status.
November 1963 -- Parts of Lincoln and Socorro Counties, New Mexico, were returned to the Infected and Eradication Areas as a result of outbreaks in October.
July 1964 ----- Lincoln and Socorro Counties, New Mexico were declared Free, returning the entire State to the Sheep Scabies Free Area.

MISSISSIPPI

In March 1963, Bolivar and Washington Counties in Mississippi were placed in the Infected and Eradication Areas following discovery of sheep scabies outbreaks. These counties regained their Sheep Scabies Free Status on July 3, 1963, following the inspection of all sheep in five Mississippi counties with no further evidence of scabies being disclosed.

TEXAS

In January 1965, portions of Carson, Coke, Gray, Hutchinson, Nolan, Roberts, Rumsfeld, and Taylor Counties, Texas, were placed in the Eradication Area. These were in process of being returned to the Free Area in July 1965.

SHEEP SCABIES ERADICATION

General

The accelerated Sheep Scabies Eradication Program has enjoyed remarkable success since its beginning in August 1960. At that time, 1421 counties in 27 States were considered Sheep Scabies Free, an area of 44 counties in one State was the only area officially recognized as a Sheep Scabies Eradication Area, and 1689 counties in 23 States were classified as Sheep Scabies Infected Areas in 9 CFR, Part 74. Now there are 3054 counties in 49 States recognized as Sheep Scabies Free and 100 counties in 2 States designated as Sheep Scabies Eradication Areas. The classification of areas as infected only no longer exists as an active eradication program is underway in all previously Infected Areas.

As we move nearer to the goal of total eradication of sheep scabies from the United States, the problem in a given area must be closely studied to determine procedures necessary to locate and eliminate all foci of the disease. The goal is the same for all areas--eradication of sheep scabies--and the principles for achieving this goal are similar; however, the methods of operation may vary depending upon the general and particular epidemiological problems and other factors involved. Also, an understanding should be developed concerning availability of State and Federal funds and hiring personnel to carry out the required program, should outbreaks occur in areas now recognized as Free.

Continuing efforts are necessary to train inspectors; supervise their activities; meticulously trace all movements of infected or exposed sheep; improve quality and quantity of inspections at auction markets, stockyards, feedlots, slaughtering plants, and other concentration points; improve dipping procedures; and to develop and continue active public education programs.

State laws and regulations should provide the necessary authority to enter premises and inspect and/or dip sheep for scabies; require maintenance of records at stockyards, auction markets, traders, etc. to trace movements of sheep; quarantine infected and exposed flocks; quarantine counties or other areas when necessary; and require owners and other persons to report suspicious cases and to present animals for inspection and dipping.

When outbreaks occur, active down-the-road systematic area inspections are also necessary to locate possible reservoirs of infection. Records should be searched and all other sources utilized to be sure no flocks escape inspection. This work must be done by responsible, trained inspectors and should be well supervised to assure that proper inspections are made. Good inspection services should be developed and maintained at auction markets, stockyards, feedlots, sheep dealers' premises, other concentration points, and slaughtering plants having Federal, State, or municipal inspections. The lack of inspections at slaughtering plants continues to be a weak link in the program. The cooperation of all persons involved is necessary.

Where a more concentrated program is required, it must be organized to move rapidly; otherwise scabies may be reintroduced into recently freed areas.

Regulatory officials should advise the sheep industry and other interested persons of outbreaks of sheep scabies and publicize regulations and other eradication procedures in effect. Providing everyone interested in sheep scabies eradication with information pertaining to recent outbreaks as soon as possible following their occurrence is one method of maintaining the high degree of enthusiasm necessary to hasten successful eradication.

In one instance numerous outbreaks were reported over widespread areas within a State. Immediate investigation revealed that seven of the eight outbreaks related directly to sales from a single dealer. This created a quite different overall situation than would have been the case had each outbreak stemmed from a different or unknown source. It is also apparent that the more promptly full epidemiological investigations can be completed the greater their value in preventing additional outbreaks.

Officials should notify other States immediately of any movements from infected or exposed flocks that involve them. This should be done by wire or telephone if this will aid in locating the animals more promptly and thus prevent exposure of additional flocks and spread of scabies. All pertinent information available should be furnished. This includes description of animals, vehicles, etc., (breed, age, sex, color, weight, trailer license plate numbers, truckers, owners, shippers, and commission company names, etc.), date shipped and other information that will aid in locating the sheep and/or flocks concerned.

CONTINUED PROGRESS MADEOn - Farm Inspections Materially Increased

Inspections of sheep in farm flocks reached 21,085,187 animals, 168 infected flocks were found in the entire country as compared to 126 the previous year. This increased effort revealed 35 infected flocks in areas classed as scabies-free involving the States of California, Texas, Kansas, Nebraska, Wyoming, Minnesota, Illinois, Ohio, Virginia, Maryland, New Jersey, Pennsylvania and New York. Locating and eliminating these foci of infection contributed greatly toward the goal of complete eradication.

Comprehensive summaries of each of these outbreaks have appeared in the monthly Animal Morbidity Reports.

Additional Areas Become Scabies Free

During FY 1965 all or parts of the States of Nebraska, Missouri, Illinois, Indiana, Ohio, West Virginia, Kentucky and Tennessee achieved scabies-free status.

Date	SHEEP SCABIES ERADICATION					
	Counties			States*		
	Free	Eradication	Infected	Free	Eradication	Infected
August 1960	1421	44	1689	27	1	23
August 1961	1432	513	1209	27	7	17
August 1962	1672	623	829	31	11	12
August 1963	2420	420	314	44	7	4
August 1964	2696	366	92	46	5	1
August 1965	3054	100	0	49	2	0

*Includes parts of States

Greater Emphasis in Problem Areas

In order to step up work in areas which were delaying the eradication effort, two inspections of all sheep were made in the States of Nebraska, Indiana and Iowa. In the latter State, 119 outbreaks were thus disclosed. These inspections represented the first concentrated attack in recent years on the disease in Iowa.

Increased Use of Maceration-Flotation Procedure for Detecting Scabies Mites

This practical diagnostic procedure, used routinely when scabies mites are not readily demonstratable otherwise, proved to be of considerable significance. In 60, or 35 percent of the 168 infected flocks found during the year, the use of the maceration-flotation procedure was necessary to demonstrate mites. Had the practice not been followed of always using this diagnostic aid, many of these outbreaks would have gone undetected and contributed toward further spread of the disease.

Scabies Training Courses and Efficient Utilization of Temporary Employees

563 temporary inspectors were employed for short periods of time on an "only when needed basis" in 18 States. This materially reduced overall program costs.

During the year scabies schools were conducted in Beltsville, Maryland; Bruceville, Charlestown, Claypool, Indianapolis, Rensselaer, and Lafayette, Indiana; Des Moines, Iowa; Nashville, Tennessee; Mission, Texas; Abingdon, Ashland, Bedford, Culpeper, Holland, Pulaski, Staunton, and Woodstock, Virginia; Baton Rouge, Louisiana; Reynoldsburg, Lima, Springfield, Cambridge and Ravenna, Ohio; Springfield, Illinois; and Lincoln, Nebraska. During the 34 training sessions involved, 1,117 persons received instruction in the fundamentals of diagnosing the disease, dipping animals, vat management, and in the principles of scabies eradication. This brought the total of persons having received such training to 4,512.

Active Laboratory Support

The Division Chemical Laboratory, Technical Services, Beltsville, Maryland, actively supported field activities, and quantitative analysis tests conducted during FY 1965 included those on the following dipping-bath samples: Toxaphene - 5,092; Lindane - 899; Co-Ral - 23; Arsenic - 52; and Lime Sulphur - 4. In addition, emulsion stability tests were conducted on 9 product samples and 15 product samples were processed for particle size and other studies to determine if specifications were being met. Considerable efforts were also devoted to developing specifications for wettable powders as permitted dips and further development work on vatside tests involved toxaphene, lindane, and other products. During the year work was also begun to develop chemical and physical procedures to safely dispose of pesticides from dipping vats and spraying operations.

Work on Vatside Test for Toxaphene Continues

A chemical vatside test for toxaphene dipping baths, developed at Beltsville, proved to be very accurate. However, field trials revealed that additional efforts should be made to make the procedures more practicable and economical for day by day field use. This work is continuing at Beltsville.

OTHER PARASITES OF SHEEP, CATTLE, AND OTHER ANIMALS

Parasite Identification and/or Confirmation at Beltsville Ectoparasite Laboratory

During the year 456 mite specimens and 165 miscellaneous ectoparasites were identified. Of approximately 6,652 lots of "suspected" screwworm larvae received, 610 were screwworm and the remainder various species of blow fly larvae.

Nonparasitic Mites Found on Sheep or Cattle and Other Miscellaneous Collections

Nonparasitic mites are not infrequently found on animals being inspected for scabies. These mites do not cause scabies but can easily be confused with those which cause the disease, particularly if it is suspected the flock may be infected.

<u>STATE</u>	<u>ANIMAL HOST</u>	<u>NONPARASITIC MITES OR MISCELLANEOUS PARASITES</u>
New Mexico	Cattle	<u>Pyemotes</u> sp.(a predacious mite); <u>DERMANYSSIDAE</u> (bird mite)
Texas	Cattle	<u>Bryobia praetiosa</u> (clover mite), <u>Trombicula</u> sp.(chigger mite); <u>Tyrophagus</u> sp.(grain mite)
Virginia	Sheep	<u>LAELAPTIDAE</u> (rodent mite family); <u>ACARIDAE</u> (grain mite); <u>Tyrophagus</u> sp.(grain mite)
West Virginia	Sheep	<u>ACARIDAE</u> (grain mite)
Pennsylvania	Sheep	<u>ACARIDAE</u> (grain mite); <u>Rhizoglyphus</u> sp.(grain mite); <u>Oribatid</u> mite (soil mite)
North Dakota	Sheep	<u>ACARIDAE</u> (grain mite)
Washington	Dog (fecal sample)	<u>ACARIDAE</u> (grain mite)
Maryland	Indigo snakes	<u>Ophionyssus</u> (snake mite)
Louisiana	King snakes Chickens	<u>Trombicula</u> sp.(chigger mite); <u>Megninia cubitalis</u> (feather mite)
Ohio	Packing material	<u>Trombicula</u> sp.(chigger mite); <u>Culex</u> sp. (mosquitoes)
Wisconsin	Laboratory mice Rabbit	<u>Ornithonyssus bacoti</u> (tropical rat mite) <u>Psoroptes equi</u> var. <u>cuniculi</u> (ear mite)
Illinois	Sheep	An oribatid (soil) mite as well as <u>Psoroptes</u> .

Regulatory personnel are to be complimented for their efforts in leaving no stones unturned in protecting the scabies free status gained. It is well to remember that a further examination of the suspect animals may reveal that parasitic mites as well as nonparasitic ones are present.

Multiple Collections of Mites Within Same Herd or Flock

Psoroptic, chorioptic, and sarcoptic mites were collected from a herd of cattle in Montgomery County, New York.

Both sarcoptic and chorioptic mites were collected from an Illinois steer at the International Livestock Exposition in Chicago.

Sheep in a Cumberland County, New Jersey, flock were found to be infested with both psoroptic and chorioptic mites.

Oribatid mites (soil mites) and psoroptic mites were collected from a Warren County Pennsylvania flock of sheep.

Examination of scrapings taken from cattle in Bell County, Texas, revealed chorioptic mites as well as Bryobia praetiosa (clover mite) and Trombicula sp. (chigger mite).

Sarcoptic Mites Collected From Several Species of Animals in Various States

Mites identified as Sarcoptes sp. were collected from cattle in Nebraska and New York; from swine representing the States of Arizona, Colorado, Idaho, Michigan, North Dakota, Utah, and Washington; from foxes in Maine and Maryland; from a porcupine in Maine; and from a sheep in Oregon.

Chorioptic Mange Reported in Many States

Cattle: Chorioptic mites were collected from cattle involving the States of Alabama, Colorado, Georgia, Idaho, Illinois, Iowa, Indiana, Kansas, Kentucky, Louisiana, Missouri, Montana, Nebraska, New York, Oregon, Pennsylvania, Tennessee, Texas, Washington, and Wisconsin.

Sheep: Chorioptic mites were collected from two flocks of sheep in Pennsylvania, and two flocks of sheep in Virginia.

Chorioptic Mange Found at Livestock Exhibitions

Chorioptic mites were found infesting 12 lots of cattle at the Fort Worth Stock Show, Fort Worth, Texas; 4 lots at the Illinois State Fair; and 8 lots at the Knox County or Tennessee State Fair; 13 lots at the National Western Stock Show, Denver, Colorado; and 22 lots at the International Livestock Exposition, Chicago, Illinois.

Parasitic Mites Collected at Several Public Stockyards or Auction Markets

Psoroptic scabies was diagnosed in two lots of sheep at Union Stock Yards, Chicago, Illinois; two lots at St. Paul Union Stock Yards, South St. Paul, Minnesota; and one lot each at the Union Stock Yards, Omaha, Nebraska, and at the Evansville Union Stock Yards, Evansville, Indiana.

Psoroptic sheep scabies was also diagnosed at one auction market in Virginia and one in Illinois, and eight outbreaks were found at auction markets in Iowa.

Other parasitic mite infestations disclosed at public stockyards include chorioptic mites collected from cattle at Bourbon Stockyards, Louisville, Kentucky; Ft. Worth Stock Yards, Ft. Worth Texas; Union Stock Yards, Denver, Colorado; St. Joseph Stock Yards, South St. Joseph, Missouri; Payne's Livestock Auction, Tucson, Arizona; Port City Stock Yards, Houston, Texas; and Union Stock Yards, San Antonio, Texas. Chorioptic mites were also found on cattle at an auction market in Colorado.

Psoroptic mites were collected at the Ft. Worth Stock Yards from Texas and Oklahoma goats and at the Ft. Smith Stockyards Co, W. Ft. Smith, Oklahoma, from Oklahoma goats.

Sarcoptic mites were collected from swine at the Detroit Stock Yards, Detroit, Michigan; the Stockland Union Stockyards, Spokane, Washington; and the Union Stock Yards, Denver, Colorado.

Psorergates bos mites were collected from cattle at the public stockyard in Clovis, New Mexico, and at an auction market in Abilene, Texas.

Reports of Psorergates Bos

During FY 1965 Psorergates bos mites were collected at an auction market in Texas from a Jones County bull and at the public stockyards at Clovis, New Mexico, from Roosevelt County cattle.

This new mite species was first collected from cattle in January 1963 in Quay County, New Mexico. During FY 1964 the parasite was found in three New Mexico herds in Quay and Guadalupe Counties and in two Texas herds in Bailey and Parmer Counties.

Following the initial finding of the mite in 1963 regulatory officials in New Mexico instituted a survey for the parasite at the public stockyards in Clovis. Skin scrapings have been taken from a large number of cattle as follows: 27 during January-May and September-October 1963; 195 during January 1964-January 1965; and 145 during January-June 1965. A total of 367 scrapings were taken. Psorergatic mites are much smaller than scabies and mange mites parasitising livestock and the maceration-flotation procedure is used to demonstrate them. Psorergatic mites were thus demonstrated in scrapings taken from three of the lots of cattle presented at the stockyards in Clovis. These included one lot in January 1964 from Guadalupe-San Miguel Counties, New Mexico; one lot in February 1964 from Parmer County, Texas; and one lot in January 1965 from Roosevelt County, New Mexico.

Some very limited survey work in Whiteside and Henry Counties, Illinois, and Scott County, Iowa, did not reveal any psorergatic mites.

OTHER ACTIVITIES

Vat Management in the Absence of a Vatside Test

Maintaining the required concentration of acaricides in the absence of a vatside test requires careful technique and attention by the persons supervising the treatment of animals. Excessive concentration may poison or kill treated animals and may add tissue residue problems. Weak concentrations may not destroy all parasites and may permit the spread of disease. The practice of using weak concentrations may also result in more resistant parasite populations.

Samples from field dipping vats supervised by regulatory personnel and those at public stockyards have shown considerable improvement. Random samples taken from auction market vats revealed that, in most cases, the baths were so weak as to be virtually ineffective for the purpose intended.

Lindane Added to List of Permitted Dips

Lindane wettable powder was added to the list of permitted dips for sheep scabies in November 1964 (extended to cattle also in June 1965) following 20 field trials in Kansas and in Maryland. As wettable powders vary considerably in their ability to perform satisfactorily in dipping vats, specifications for lindane wettable powders had to be developed. This was done. Only a particular formulation of one proprietary brand (NIAGARA 25 SPRAY LINDANE formulated and packaged at the company's Middleport, New York, Plant) meets performance specifications and is listed as a permitted dip in Supplement No. 2, dated June 7, 1965, to Division Memorandum No. 505.1 (556.1). If the directions given in this supplement are carefully followed the proper concentration of this product can be maintained in a dipping vat. This can be demonstrated quite readily in portable sheep-dipping vats such as the one built at Beltsville. Difficulty has been experienced in using the product in other than portable vats.

Portable Sheep-dipping Vats Built

Minor modifications as a result of field use were made in the Beltsville portable sheep-dipping vat. Three such vats have now been constructed at Beltsville. One was transferred to Nebraska and one to Texas. Using the Beltsville plan, similar portable vats, which provide for better vat management and more efficient dipping, were constructed in Kentucky, Nebraska, Missouri, and Wisconsin. A portable sheep-dipping vat had been constructed previously in Iowa, and several States have purchased commercially available vats.

Field Effectiveness of Permitted Dips Against Psoroptic Mites

A study of suspected failures of permitted dips was made and a comprehensive report was distributed with the September 1964 Animal Morbidity Report.

\$50 Bounty for Discovery of Sheep Scabies

The Illinois Department of Agriculture announced that three bounties of \$50 each would be offered to persons reporting sheep scabies in the State. The purpose of these rewards was to reemphasize the importance of a thorough inspection for scabies. The first reward was offered by Monier Sheep Company, Montgomery, Illinois; the second by the Illinois Purebred Sheep Breeders' Association; and the third by Dr. Paul Doby, Superintendent of the Illinois Department of Agriculture's Division of Livestock Industry. The discovery of sheep scabies in a Whiteside County flock, the first reported since the entire State was declared scabies free in August 1964, netted a veterinary practitioner in Walnut a \$50 bounty check from the Monier Sheep Company.

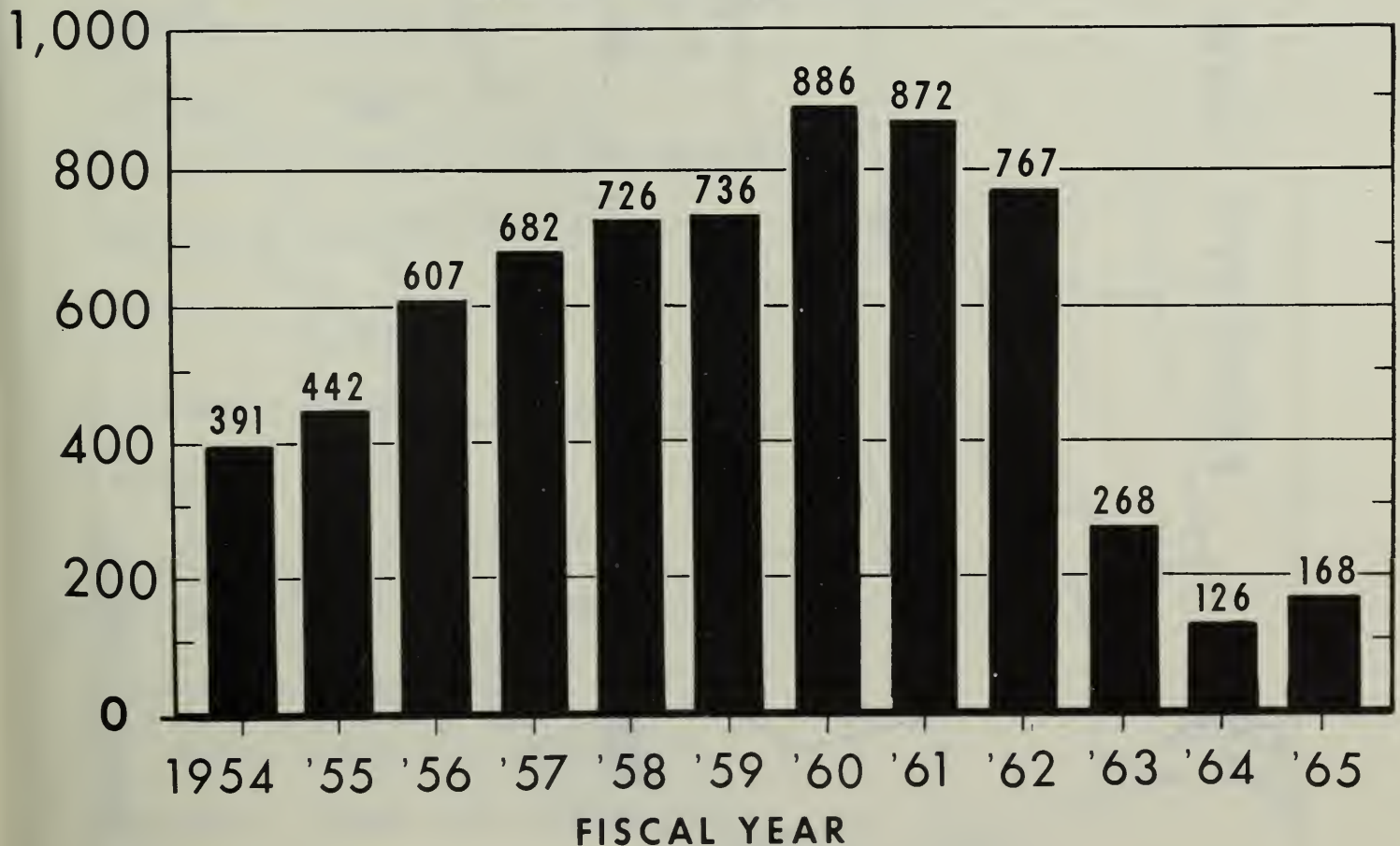
On January 7, 1965, the disease was found through the efforts of the veterinary practitioner and a regulatory veterinarian at a Bureau County, Illinois, salebarn.

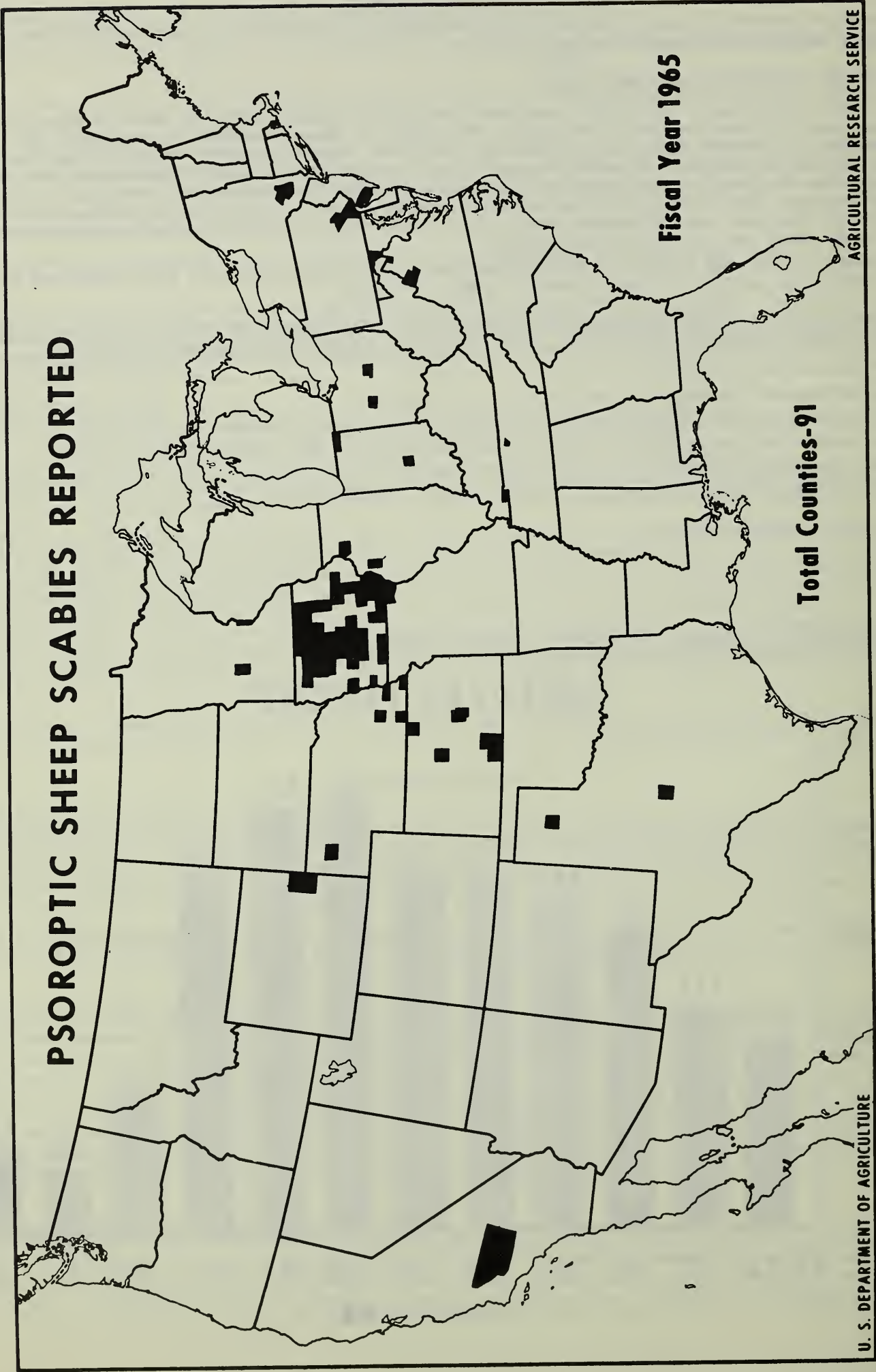
Alleged Interstate Violations and Results of Prosecutions Relating to 9 CFR, Part 74, Scabies in Sheep, Based on Reports Received in Washington, D. C., Interstate Regulations Enforcement Staff Office.

Cases successfully prosecuted.....	4
Cases pending with Department of Justice and U. S. Attorneys.....	4
Cases closed by letters of warning with concurrence of Department of Justice.....	2
Cases declined for prosecution but letters of warning issued to the violators by U.S. Attorneys.....	2
Cases declined for prosecution by the U. S. Attorneys.....	2
Cases closed when further investigation disclosed that no violation had occurred.....	0
Cases under investigation.....	46

Psoroptic Sheep Scabies Reported

INFECTED FLOCKS





PSOROPTIC SHEEP SCABIES - States and Counties Involved

() indicates number of outbreaks

California - Kern (1).

Illinois - Warren (1), Whiteside (1).

Indiana - Lagrange (1), Morgan (2), Steuben (1).

Iowa - Adair (2), Appanoose (2), Audubon (3), Benton (1), Black Hawk (1), Boone (1), Bremer (1), Buena Vista (4), Calhoun (3), Cerro Gordo (5), Chickasaw (2), Clay (2), Dallas (1), Davis (1), Decatur (1), Des Moines (2), Floyd (3), Franklin (2), Greene (2), Guthrie (3), Hamilton (2), Hancock (3), Harrison (1), Henry (2), Howard (1), Humboldt (1), Jasper (1), Jefferson (2), Johnson (5), Jones (2), Keokuk (1), Kossuth (3), Lee (2), Linn (1), Louisa (3), Madison (4), Mills (1), Mitchell (9), Monroe (2), O'Brien (1), Palo Alto (2), Pocahontas (4), Polk (2), Ringgold (3), Sac (1), Story (2), Taylor (1), Van Buren (1), Warren (3), Washington (3), Webster (1), Winnebago (2), Worth (3), Wright (2).

Kansas - Barber (1), Harper (4), Kingman (2), Marion (1), Republic (1), Russell (2).

Kentucky - Calloway (1).

Maryland - Washington (1).

Minnesota - Kandiyohi (1), Washington (1).

Missouri - Clark (1), Scotland (2).

Nebraska - Box Butte (1), Jefferson (1), Otoe (1), Richardson (1), Seward (1).

New Jersey - Cumberland (1), Salem (3).

New York - Ulster (1).

Ohio - Knox (1), Logan (1).

Pennsylvania - Berks (1), Chester (2), Delaware (1).

Tennessee - Trousdale (2).

Texas - Carson (1), Runnels (1).

Virginia - Clarke (2), Rockingham (1).

Wyoming - Niobrara (1).

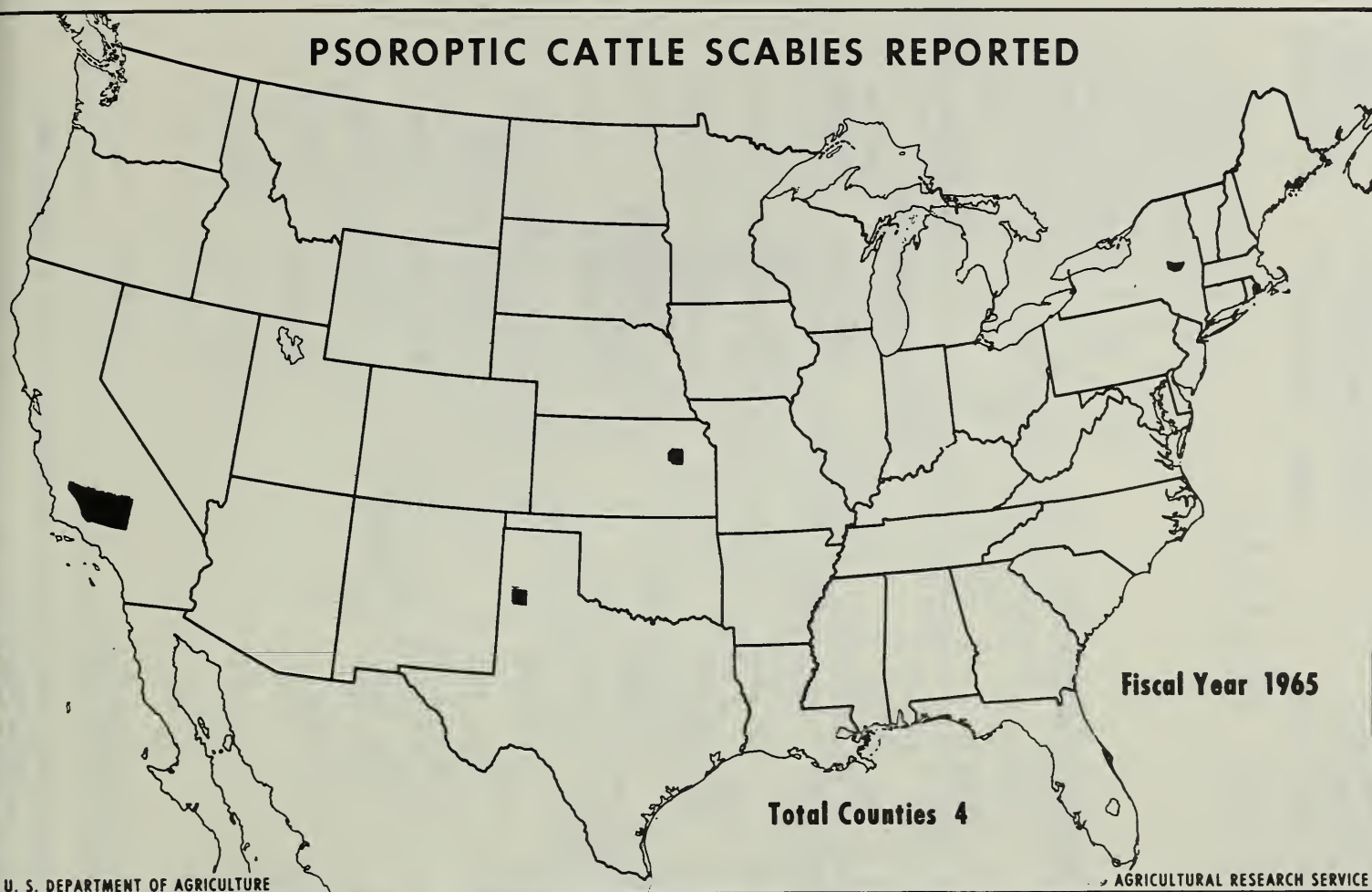
PSOROPTIC SHEEP SCABIES

As Reported From Respective States	Number of Infected Counties	Number of Infected Flocks	Number Infected Sheep	Total Inspections	Total Dippings
Alabama				4,419	
Alaska				1,816	
Arizona				*2,373	533,938
Arkansas					18,625
California	1	1	1,400	*1,990	1,993,760
					*1 15,285
Colorado				750,518	27,006
Connecticut				2,710	
Delaware				3,184	
Florida				6,994	
Georgia				*8,881	434
Hawaii				3,395	
Idaho				1,803,319	
Illinois	2	2	40	517,364	95,890
Indiana	3	4	161	756,595	550
Iowa	54	119	10,745	2,216,274	21,303
Kansas	6	11	2,050	437,542	29,873
Kentucky	1	1	47	163,464	1,252
Louisiana				79,001	15,023
Maine				2,600	
Maryland	1	1	116	32,447	271
Massachusetts				1,344	
Michigan				175,343	2,375
Minnesota	2	2	841	265,870	1,207
Mississippi				14,423	
Missouri	2	3	1,130	396,095	2,378
Montana				6,369 ^a	
Nebraska	5	5	551	981,383	8,955
Nevada				103,015	
New Hampshire					
New Jersey	2	4	101	14,553	233
New Mexico				1,027,853	27,629
New York	1	1	25	62,198	99
North Carolina				*26	29,462
North Dakota					172,032
Ohio	2	2	159	1,699,872	1,866
Oklahoma				80,683	1,203
Oregon				9,619	220
Pennsylvania	3	4	86	198,469	1,144
Rhode Island				619	
South Carolina					
South Dakota				1,103,690	12,414
Tennessee	1	2	93	131,378	436
Texas	2	2	1,289	*575,042	*2,503 93,042
Utah				*125	112,402
Vermont					192
Virginia	2	3	273	317,270	1,245
Washington				22,540	
West Virginia				*120	236,213
Wisconsin					83,326
Wyoming	1	1	960	531,799	5,471
Puerto Rico					
Virgin Islands					
TOTALS:	91	168	20,067	*588,557	21,085,187 *2,504 367,231

*Goats

a-In addition, 205,866 sheep were inspected by Montana Deputy State Veterinarians at auction markets.

PSOROPTIC CATTLE SCABIES REPORTED



Four outbreaks of psoroptic cattle scabies were reported in four States. In California, psoroptic mites were identified on March 10, 1965, from skin scrapings taken by a veterinary practitioner who was doing other professional work in a small herd of beef cattle in Kern County and suspected one steer had scabies. This was the first case reported in California since 1954 when outbreaks were also reported in Arizona, Colorado, Missouri, Oklahoma, and Texas.

On March 25, 1965, a veterinary practitioner's report led to a diagnosis of scabies in a Wabaunsee County, Kansas, feedlot. This was the first evidence of psoroptic cattle scabies found in Kansas since 1959 when 13 infected herds were found in an outbreak involving nine counties.

A Meat Inspection Division veterinarian at a Federal establishment in Clovis, New Mexico, observed signs of scabies on March 30, 1965, affecting cattle from Castro County, Texas. Psoroptic mites were collected from the cattle at Clovis and also from cattle remaining on the premises in Texas. In April 1964 the disease had been diagnosed in cattle of the same owner. Three outbreaks of psoroptic cattle scabies were reported in Texas in 1962, one in 1961, two in 1959, one in 1956, three in 1955 and two in 1954.

In New York, on April 21, 1965, a regulatory veterinarian testing a Montgomery County dairy herd for tuberculosis observed scabies lesions. Psoroptic, chorioptic and sarcoptic mites were identified from skin scrapings.

With the exception of the herd in New York, the outbreaks involved multiple possible sources and cattle shipped from several States. Although extensive epidemiological work was done it was not possible to pinpoint the source of any of the outbreaks.

During the year, 18,389,099 cattle were inspected for scabies, an increase of approximately one million over the previous year.

P S O R O P T I C C A T T L E S C A B I E S

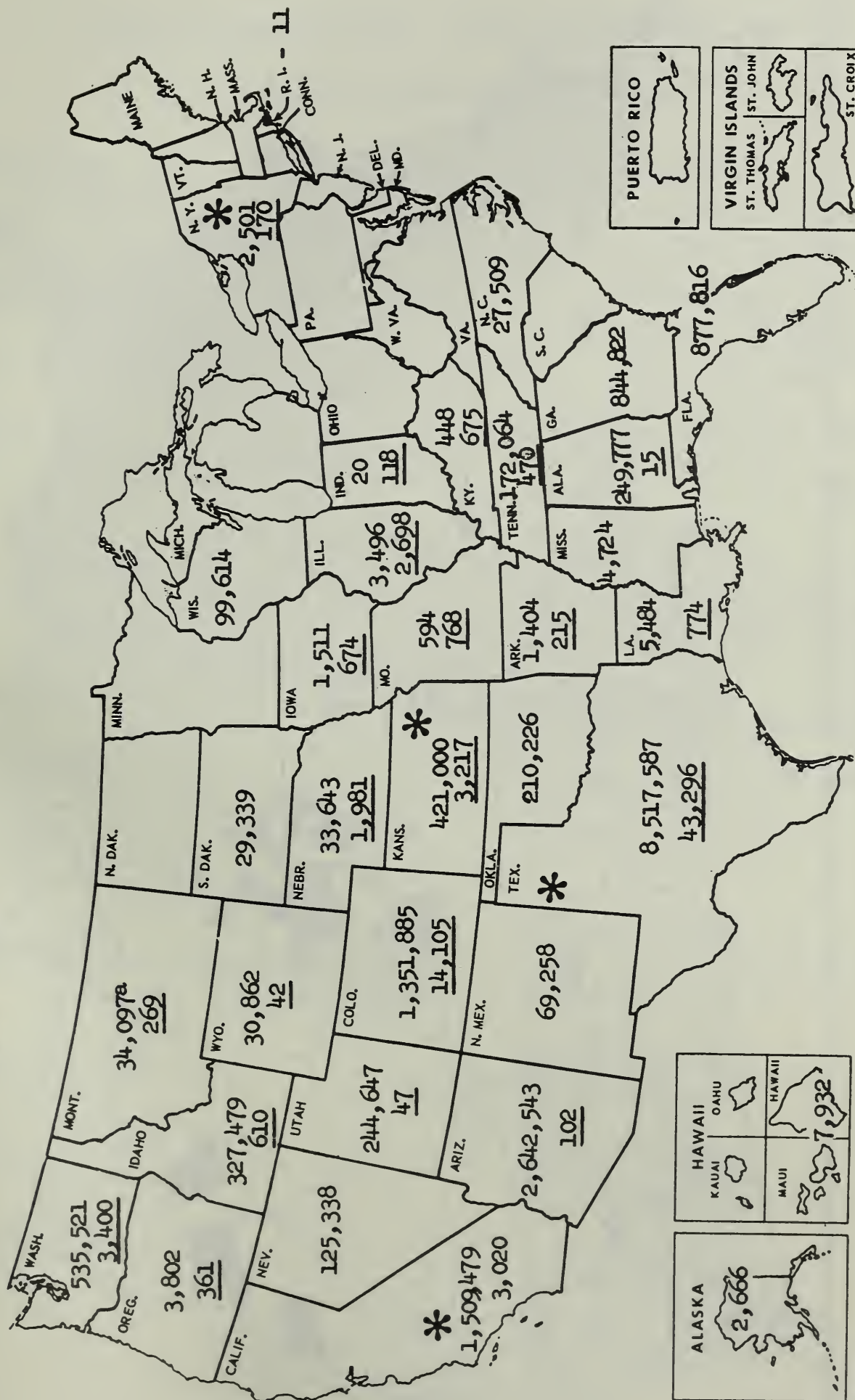
PROGRAM ACTIVITIES FISCAL YEARS 1954 THROUGH 1965

Fiscal Year	Number of Infected States	Number of Infected Counties	Number of Infected Herds	Total Inspections	Total Treatments	Infected Lots	Public Stockyards		
							Cattle Inspected	Cattle Treated	
1954	6	15	28	1,090,260	32,844	0	25,810,912	13,019	
1955	6	19	30	1,146,174	396,268	2	25,845,757	12,389	
1956	5	5	7	1,763,243	52,003	1	25,187,037	672	
1957	5	12	25	2,089,912	184,236	3	25,994,640	2,287	
1958	3	4	4	2,139,102	117,768	0	23,817,304	609	
1959	6	21	27	5,862,011	268,364	9	21,977,606	21,456	
1960	4	4	4	6,927,266	374,990	0	21,700,786	53,627	
1961	5	8	10	7,660,685	234,293	3	21,334,686	46,005	
1962	3	4	4	8,160,029	123,549	1	20,438,908	42,197	
1963	0	0	0	13,464,758	129,882	0	20,168,561	69,772	
1964	2	2	2	17,260,340	40,827	1	19,912,734	43,333	
1965	4	4	4	18,389,099	77,027	0	20,508,076	50,132	

During fiscal year 1965 increased efforts were made to locate any additional evidence of the disease and cattle inspections increased more than a million over the previous year.

PSOROPTIC CATTLE SCABIES

INSPECTIONS AND DIPPINGS - FISCAL YEAR 1965



KEY:

0 - Animals Inspected

0 - Animals Treated for Scabies

* - Infected Herds Found

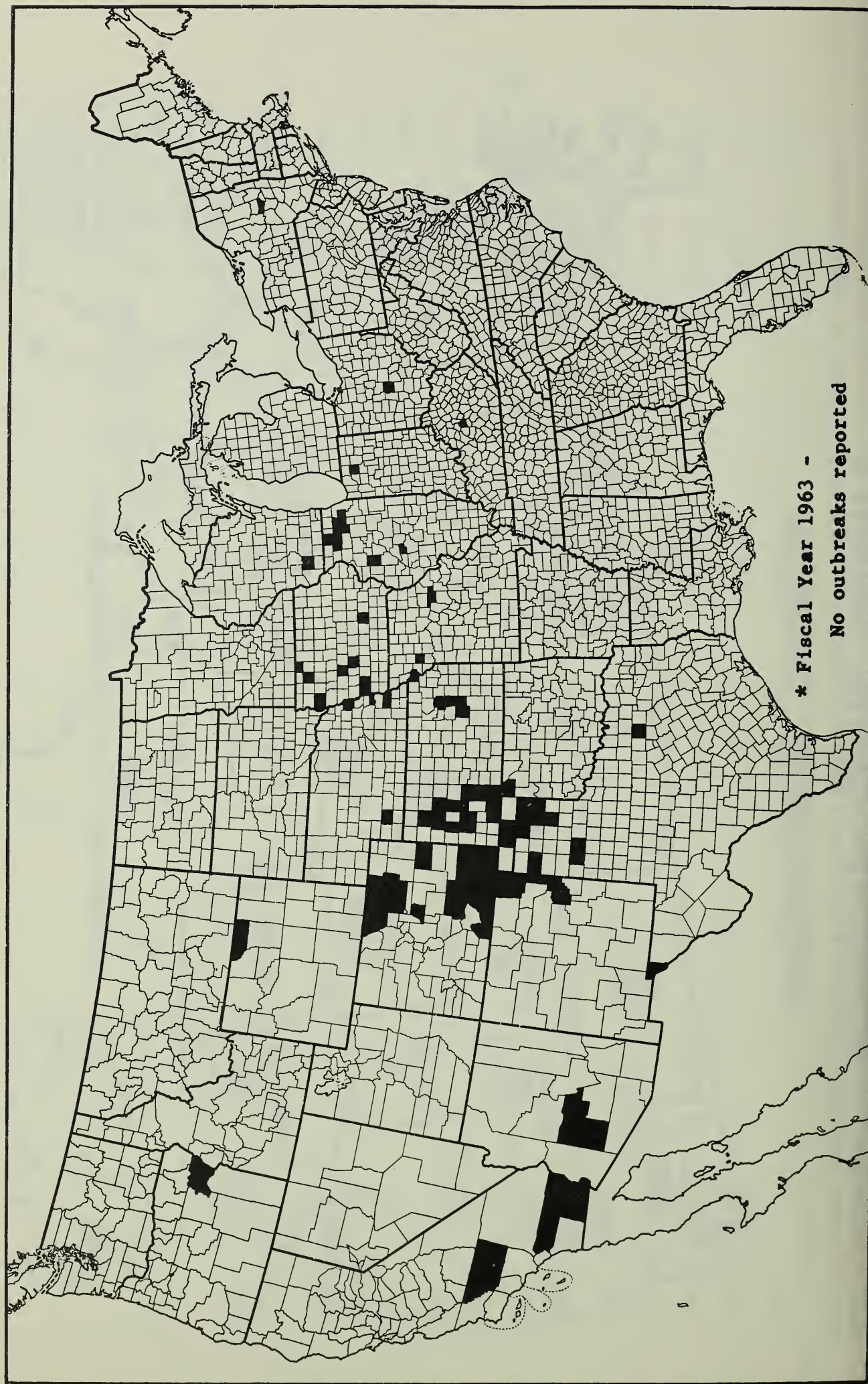
a - In addition, 790,913 cattle were inspected by Montana Deputy State Veterinarians at auction markets.

Total Inspections - 18,389,099
Total Treatments - 77,027

PSOROPTIC CATTLE SCABIES REPORTED

14

FISCAL YEARS 1954 TO 1965 *



PSOROPTIC CATTLE SCABIES - FISCAL YEARS 1954 TO 1965

States and Counties InvolvedFiscal Year 1954

Arizona - Maricopa (8)
 California - Imperial (2), Riverside (1)
 Colorado - Baca (1), Bent (4), Crowley (1),
 Kit Carson (1), Otero (1),
 Prowers (3), Pueblo (2)
 Missouri - Audrain (1)
 Oklahoma - Harper (1)
 Texas - El Paso (1), Hartley (1)

Fiscal Year 1955

Colorado - Costilla (1), Crowley (9),
 Larimer (1), Otero (1),
 Prowers (3)
 Kansas - Doniphan (1), Finney (1), Ford
 (1), Hodgeman (1), Logan (1),
 Lane (1), Thomas (2)
 Kentucky - Franklin (1)
 Nebraska - Burt (1)
 Texas - Lipscomb (2), Swisher (2),
 Tarrant (2)

Fiscal Year 1956

Colorado - Crowley (3)
 Iowa - Mahaska (1)
 Kansas - Finney (1)
 New Mexico - Union (1)
 Texas - Roberts and Gray (1)

Fiscal Year 1957

Colorado - Bent (2), Crowley (11), Las
 Animas (3), Otero (1), Prowers
 (1), Pueblo (1)
 Illinois - Kane (1)
 Iowa - Guthrie (1)
 Kansas - Lyon (1)
 Missouri - Clinton (1)
 Ohio - Franklin (1)
 Wyoming - Sheridan (1)

Fiscal Year 1958

Colorado - Bent (1), Prowers (1)
 Iowa - Carroll (1)
 Kansas - Seward (1)

Fiscal Year 1959

Colorado - Otero (1)
 Illinois - DeKalb (2), DuPage (1),
 Knox (1), Ogle (1)
 Iowa - Clay (1), Emmett (1),
 Pottawattamie (2)
 Kansas - Chase (1), Clark (1), Ford
 (1), Gove (5), Kearney (1)
 Lane (1), Meade (1),
 Wichita (1)
 Nebraska - Dawson (1), Otoe (1),
 Sarpy (1)
 Texas - Hemphill (1), Ochiltree (1)

Fiscal Year 1960

Colorado - Weld (1)
 Indiana - Marshall (1)
 Iowa - Pottawattamie (1)
 Oregon - Baker (1)

Fiscal Year 1961

Colorado - Adams (1), Morgan (1),
 Weld (2)
 Illinois - Menard (1), Winnebago (1)
 Iowa - Plymouth (1)
 Oklahoma - Texas (2)
 Texas - Swisher (1)

Fiscal Year 1962

New Mexico - Quay (1)
 Texas - Hansford (1), Ochiltree (1)
 Wisconsin - Iowa (1)

Fiscal Year 1963

No Outbreaks of Psoroptic Cattle
 Scabies Reported.

Fiscal Year 1964

Colorado - Douglas (1)
 Texas - Castro (1)

Fiscal Year 1965

California - Kern (1)
 Kansas - Wabaunsee (1)
 New York - Montgomery (1)
 Texas - Castro (1)

